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Ryan, Mason & Lewis, LLP  
Suite 205  
1300 Post Road  
Fairfield, CT 06430

EXAMINER
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MITCHELL, JASON D

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/040,344  
Filing Date: January 02, 2002  
Appellant(s): PAUW ET AL.

**MAILED**

**MAY 16 2006**

**Technology Center 2100**

\_\_\_\_\_  
Kevin M. Mason  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 10/11/05 appealing from the Office action  
mailed 5/5/05.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

**WITHDRAWN REJECTIONS**

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner.

The 35 USC 101 rejections of claims 1-2, 17-18, 20-23 and 28-30: These rejections have been withdrawn upon consideration of Appellant's arguments.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5,832,270

Laffra

11-1998

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

**Claims 1-35 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,832,270 to Laffra et al. (Laffra).**

**Regarding Claim 1, 24, and 32-35:** Laffra discloses a method for analyzing behavior of a software system (col. 1, lines 61-63 'visualizing the internal workings of object-oriented software'), comprising: collecting details associated with a program task associated with said software system (col. 1, lines 61-63 'the internal workings of object-oriented software') based on a specification associated with said program task (col. 5, lines 43-48 'This specification is done using the visualization script rules'), wherein said specification contains one or more conditions to initiate a trace of said program task (col. 6, 55-58 'Whether or not object classes are to be displayed on the graphics display is determined by providing visualization rules 288 in the appropriate visualization script 285'; col. 4, lines 12-19 'pass information ... each time a method ... is entered or left'); and providing said collected details for analysis (col. 6, 55-58 'displayed on the graphics display').

**Regarding Claim 2, 25:** The rejection of claim 1 is incorporated; further Laffra discloses a duration of said program task is defined (col. 6, line 66-col. 7, line 24 'If the activated hook notifies the creation of a new object instance ... generate the required visualizations 340. ... If the activated method 300 notifies the deletion of an existing object instance ... step 330 will delete the visualization'; col. 4, lines 12-19 'pass information ... each time a method ... is entered or left') by said one or more conditions associated with a state of said software system (col. 6, line 66-col. 7, line 24 'the creation of a new object instance ... the deletion of an existing object instance'; col. 4, lines 12-19 'each time a method ... is entered or left').

**Regarding Claim 3:** The rejection of claim 2 is incorporated; further Laffra discloses said one or more conditions includes an entry or exit of at least one specified method (col. 2, lines 8-11 'a method being entered or a method being exited').

**Regarding Claim 4:** The rejection of claim 2 is incorporated; further Laffra discloses said one or more conditions includes a creation or deletion of at least one specified object (col. 2, lines 8-10 'an object instance being created, an object instance being destroyed').

**Regarding Claim 5:** The rejection of claim 2 is incorporated; further Laffra discloses said one or more conditions includes an invocation of at least one specified object (col. 6, lines 66-67 'the creation of a new object instance').

**Regarding Claim 6:** The rejection of claim 2 is incorporated; further Laffra discloses said one or more conditions includes a passing of at least one specific object or scalar value as an argument, return value or field value (col. 4, lines 40-48

'\_SPECIAL\_HOOK\_TYPE\_hook (...new\_salary)' and col. 9, lines 6-12 'Constraints take the form a comparison operator ... ==').

Note that the example 'hook' shown in col. 4 explicitly discloses providing the value passed into the method (float new\_salary) to the visualization script which then applies a visualization rule including a constraint (col. 7, lines 49-52 'resolves the set of constraints possibly defined by the script (see 440 in FIG.4) the resolution of the constraint rules may result in updates to visualization variables') and that these 'Constraints take the form of ... expressions over ... constant values, and/or instance variables ... The operator is a comparison operator ... ==' col. 9, lines 7-12.

**Regarding Claim 7:** The rejection of claim 2 is incorporated; further Laffra discloses said one or more conditions includes at least one specified sequence of method invocations (col. 7, lines 41-43 'count the number of times a given method is executed, and to update the display when a certain threshold has been reached').

**Regarding Claim 8:** The rejection of claim 2 is incorporated; further Laffra discloses said one or more conditions includes at least one specified resource (col. 3, lines 38-41 'variables 210 ... describe the particular employee') exceeding at least one specified threshold (col. 9, lines 6-12 'Constraints take the form a comparison operator ... >=').

Note that the limitation 'one specified resource' is undefined in the claim and in this case is being read on 'variables' representing 'an employee'.

**Regarding Claim 9:** The rejection of claim 1 is incorporated; further Laffra discloses said collected details include an existence or sequence of specified method invocations

(col. 7, lines 41-43 'count the number of times a given method is executed ... when a certain threshold has been reached').

**Regarding Claim 10:** The rejection of claim 1 is incorporated; further Laffra discloses said collected details include an existence or sequence of specified object creations and deletions (col. 2, lines 8-10 'an object instance being created, an object instance being destroyed').

**Regarding Claim 11:** The rejection of claim 1 is incorporated; further Laffra discloses said collected details include an existence or sequence of specified class loading and unloading (col. 2, lines 8-10 'an object instance being created, an object instance being destroyed').

**Regarding Claim 12:** The rejection of claim 1 is incorporated; further Laffra discloses said collected details include values of specified arguments to invocations of specified methods (col. 4, lines 40-48 '\_SPECIAL\_HOOK\_TYPE\_hook(...new\_salary)').

**Regarding Claim 13:** The rejection of claim 1 is incorporated; further Laffra discloses said collected details include values of specified return values from invocations of specified methods (col. 4, lines 40-48 '\_SPECIAL\_HOOK\_TYPE\_hook(...new\_salary)'; col. 4, lines 51-54 'both when the method is entered and when it is left').

**Regarding Claim 14:** The rejection of claim 1 is incorporated; further Laffra discloses said collected details include values of specified field values for invoked objects or field values for passed arguments (col. 60-65 'one or more instance variables').

**Regarding Claim 15:** The rejection of claim 1 is incorporated; further Laffra discloses the step of collecting said details for at least one specified number of task instances (col. 7, lines 10-11 'each time an object of the class employee is created').

**Regarding Claim 16:** The rejection of claim 1 is incorporated; further Laffra discloses the step of collecting said details for at least one (1) specified number of threads (col. 1, lines 61-63 'visualizing the internal workings of object-oriented software').

**Regarding Claim 17, and 29:** The rejections of claims 1 and 24 are incorporated; further Laffra discloses the step of dynamically modifying said specification associated with said program task associated with said analysis (col. 2, lines 17-19 'modify the visualization, without recompiling or relinking the application programs') in an iterative process (Fig. 3, step 380 'check all visual repr. Use script').

**Regarding Claim 18 and 30:** The rejections of claims 1 and 24 are incorporated; further Laffra discloses the step of dynamically modifying said specification to identify details to collect (col. 2, lines 17-19 'modify the visualization, without recompiling or relinking the application programs') in an iterative process (Fig. 3, step 380 'check all visual repr. Use script').

**Regarding Claim 19 and 31:** The rejections of claims 1 and 24 are incorporated; further Laffra discloses the step of connecting to a running version of said software system (claim 7. 'rules can be changed independent of the ... execution of the application'). By adding rules to an empty 'visualization script' one can be said to be connecting to a running version of said software system.



**Regarding Claim 20:** The rejection of claim 1 is incorporated; further Laffra discloses the step of visually analyzing said collected details (col. 1 lines 61-63 'visualizing').

**Regarding Claim 21:** The rejection of claim 1 is incorporated; further Laffra discloses the step of visually analyzing said collected details (col. 1 lines 61-63 'visualizing') for a plurality of instances of said program task (col. 7, lines 10-11 'each time an object of the class employee is created').

**Regarding Claim 22:** The rejection of claim 1 is incorporated; further Laffra discloses the step of quantitatively analyzing said collected details (col. 7, lines 7-8 'the height of the box is a function of the salary of the employee').

**Regarding Claim 23:** The rejection of claim 1 is incorporated; further Laffra discloses the step of quantitatively analyzing said collected details (col. 7, lines 7-8 'the height of the box is a function of the salary of the employee') for a plurality of instances of said program task (col. 7, lines 10-11 'each time an object of the class employee is created').

**Regarding Claim 26:** The rejection of claim 25 is incorporated; further, claim 26 is a collection of the limitations recited in claims 3-8 and is rejected with the same rationale.

**Regarding Claim 27:** The rejection of claim 24 is incorporated; further, claim 27 is a collection of the limitations recited in claims 9-14 and is rejected with the same rationale.

**Regarding Claim 28:** The rejection of claim 24 is incorporated; further, claim 28 is a collection of the limitations recited in claims 15 and 16 and is rejected with the same rationale.

### **(10) Response to Argument**

#### Regarding Claims 1, 24 and 32-35:

In the last full paragraph on pg. 4, Appellant states:

Laffra does not disclose or suggest that the hooks 260 and 270 are conditional instructions, and thus a person of ordinary skill in the art would recognize that hooks 260 and 270 are executed whenever they are encountered. ... Laffra therefore does not disclose or suggest utilizing one or more conditions to *initiate a trace* of a program task. (emphasis in original)

Examiner respectfully disagrees. As disclosed in col. 4, lines 12-19 Laffra's hooks are 'used to pass information to a monitoring function' thus initiating a trace of a program task ('each time a method in the object class ... is entered or left'). Further, Laffra's hooks 'pass information ... each time a method ... is entered or left' clearly disclosing 'conditions to initiate a trace' as claimed.

Additionally, Laffra's visualization script 285 provides conditions ('visualization rules 288') to initiate a trace ('displayed on the graphics display').

#### Regarding Claims 2-4, 6-8 and 25:

In the last paragraph of pg. 5 Appellant states:

Appellants could find no disclosure of suggestion by Laffra that a *duration of a program task* is defined by said one or more conditions associated with a state of the software system, that said one or more conditions includes an entry or exit of at least on specified method, or that said one or more conditions includes a creation or deletion of at least on specified object. (emphasis in original)

Examiner respectfully disagrees. As disclosed in col. 4, lines 12-19, Laffra's hooks clearly define a duration of a program task ('pass information ... each time a method ...

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is entered or left'). Thus clearly defining a program task's (method's) duration by indicating it's start and end points (entered or left).

Additionally, such a limitation is clearly anticipated by col. 7, lines 44-48 'when a given method is entered, ... coloring a visual item red, and to reset the display when the method is left again'. Which shows a 'duration' (e.g. the period of time that the visual item is colored red) is defined by an entry ('a given method is entered') and an exit of a specified method ('when the method is left again').

Further, Laffra discloses various means of triggering the display discussed above (col. 7, lines 44-48).

Col. 6 line 66-col. 7, line 24 discloses the creation or deletion of at least on specified object as such a trigger ('each time an object of the class Employee is created').

Col. 4, lines 40-48 in conjunction with col. 9, lines 6-12 disclose an instance were the passing (col. 4, lines 40-48 '\_SPECIAL\_HOOK\_TYPE\_hook(...new\_salary)') of at least one specified object or scalar value triggers the display (col. 9, lines 6-12 'a comparison operator ... ==').

Col. 7, lines 41-43 discloses using at least one specified sequence of method invocations ('count the number of times a given method is executed, and to update the display when a certain threshold has been reached')

Col. 3, lines 38-41 in conjunction with col. 9, lines 6-12 disclose a trigger based one at least one specified resource (col. 3, lines 38-41 'employee ... salary') exceeding at least one specified threshold (col. 9, lines 6-12 'a comparison operator ... >=').

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**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.


Respectfully submitted,

Jason Mitchell



Conferees:

Kakali Chaki; Tuan Dam



TUAN DAM  
SUPERVISORY PATENT EXAMINER



KAKALI CHAKI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER